

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application.

1. (Withdrawn) A method for the generation of living tissue-like organization of cells, viz., macromass culture, including three-dimensional tissue-like constructs, free from the requirement of scaffold or extraneous matrix, comprising:

a culture system in which cells are seeded at a high density per unit area of a culture vessel in a range spanning a window around 10^6 cells per cm^2 resulting in three-dimensional tissue-like formation or organization of cells, free from the requirement for any other agents that aid in tissue formation.; and

providing tissue like constructs made from mesodermal cells, and could be applicable to other cell types;

2. (Withdrawn) The method as claimed in claim 1, including using macromass culture comprising a culture system for tissue formation, which comprises:

generating three-dimensional tissue-like organization, macroscopic or microscopic, from cells by high-density cell seeding; and

bringing the cells together in close proximity in a certain favorable range of high densities of cells in three-dimensional space, that favors cohesive integration of cells into a three-dimensional tissue-like state, free of the requirement for any other agents that aid in tissue formation.

3. (Cancelled)

4. (Cancelled)

5. (Withdrawn) Tissue-like organizations of cells as claimed in claim 3, which can be made to assume different forms, being generated for the purpose of achieving different properties or qualities, said different forms comprising:

three-dimensional macroscopic tissue-like constructs by themselves, wherein “macroscopic” means that the size of the tissue is at least such that it can be easily visually discerned by normal human vision, and the macroscopic tissue-like constructs are histologically competent; and

combining the three-dimensional tissue-like organization with different matrices, such as gels, sheets, membranes or sponges or with other scaffolds and the like; and

said tissue-like organization being in the form of microscopic three-dimensional structures.

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Withdrawn) Tissue-like organizations of cells by macromass culture as claimed in claim 3, wherein the tissue substitutes are achieved on different compatible growth surfaces or scaffolds.

16. (Cancelled).

17. (Withdrawn) Tissue-like organizations of cells as claimed in claim 3, which can be made to assume different forms, and different forms being generated for the purpose of achieving different properties or qualities, comprising:

three-dimensional macroscopic tissue-like constructs having a size that can be easily visually discerned by normal human vision;

the macroscopic tissue-like constructs being histologically competent;

combining the three-dimensional tissue-like organization with different matrices, such as gels, sheets, membranes or sponges or with other scaffolds; and

the tissue-like organization of cells being in the form of microscopic three-dimensional structures.

18. (Withdrawn) A method for the generation of tissue-like organization of cells including fabrication of three-dimensional tissue-like constructs free of the aid of scaffold comprising:

employing high cell-seeding-density culture to generate tissue-like organization of cells free of the requirement for employing specific agents that aid in tissue formation and scaffolds;

providing tissue-like constructs made from mesodermal cells, but not necessarily limited to these cell types; and

constructing the tissue-like organization of cells to produce different tissue engineered products by generating tissue-like organization of cells and formation of living, cellular putative tissue substitutes.

19. (Withdrawn) The method as claimed in claim 18, including using high cell seeding density per unit area or space of culture vessel free of the requirement for other agents to form the tissue-like organization of cells and to provide macroscopic tissue-like constructs.

20. (Withdrawn) The method as claimed in claim 18, including formation of tissue-like organization using macromass culture by seeding the cells at a high cell density per unit area or space of culture vessel.

21. (Withdrawn) The method as claimed in claim 20, wherein the macromass culture comprises a culture system for tissue formation, comprising:

seeding cells at a high density per unit area or space of the culture vessel in a range spanning a window around 10^6 cells per cm^2 and free of the requirement for other agents that aid in tissue formation; and

the macromass culture further comprising:

generating tissue-like organization, macroscopic or microscopic, from cells by high-density cell seeding, bringing cells together in close proximity in a certain favorable range of high densities of cells in three-dimensional space, free of the requirement for any other agents that aid in tissue formation;

achieving the macromass range of favorable high cell seeding densities by settling the cells together within the three-dimensional space occupied by the cells at the base of the culture vessel such that they come into a state of close proximity with one another that triggers or signals them into a tissue formation mode by which they become cohesively integrated; and

achieving the macromass range of cell seeding density in a vessel with a flat or curved base whereby using a culture vessel of at least about 0.75 cm in diameter for macromass culture results in the formation of macroscopic tissue-like constructs, and macroscopic defines a tissue size that can be easily visually discerned by the normal human vision.

22. (Cancelled)

23. (Cancelled)

24. (New) A three dimensional construct comprising a tissue-like organization of cells of at least 3 mm in diameter which is a single unified construct into which all the seeded cells in a culture vessel are incorporated, and which is free of the requirement of a scaffold or a matrix.

25. (New) The three dimensional construct as claimed in claim 24, wherein the cells are uniformly distributed throughout the tissue like construct.

26. (New) The three dimensional construct as claimed in claim 24, wherein the tissue-like organization of dermal fibroblasts are formed free of the requirement of any external agent or influence that aids in three dimensional tissue like organization, comprising tissue inducing chemicals, growth factors, complex bioreactors, rotational culture, scaffolds, matrices, extraneous extracellular matrix components.

27. (New) The three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells are generated from dermal fibroblasts.

28. (New) The three dimensional construct as claimed in claim 24, wherein the tissue-like organization of cells is formed solely by seeding the cells at a high density in the range of from 3×10^5 cells/cm² to 3×10^6 cells/cm², wherein the seeded cells are kept static, free of the requirement of any external agent or influence that aids in tissue-like organization of cells, and all the seeded cells become part of the three-dimensional construct.

29. (New) A three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells can be formed from 4-5 hours of cell seeding in a culture vessel.

30. (New) A three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells does not require serum free media conditions for formulations.

31. (New) A three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells can be formed with greater than 3 mm diameter by increasing the size of the culture vessel while maintaining the seeding density of the cells of at least 3×10^5 cells/cm².

32. (New) The three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells can be used in vitro and in vivo tissue equivalents.

33. (New) The three dimensional construct as claimed in claim 24, wherein the tissue like organization of dermal fibroblasts is optionally combinable with a supporting matrix or a gel, a sponge, a sheet, or a membrane.

34. (New) The three dimensional construct as claimed in claim 33, wherein the supporting matrix or scaffold is made of natural or synthetic material selected from the group comprising collagen, fibrin, chitosan, poly-lactic acid, gelatin, nylon, alginate, polyglycolic acid and/or combination thereof.

35. (New) The three dimensional construct as claimed in claim 24, wherein the tissue like organization of cells is sheet like immediately upon formation.